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| 09/754,041      | 12/29/2000  | David M. Goodman     | 476-1971            | 3347             |

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EXAMINER

WAHBA, ANDREW W

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2661

DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/754,041

Applicant(s)

GOODMAN ET AL.

Examiner

Andrew W Wahba

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 35 and 37 is/are allowed.
- 6) ☒ Claim(s) 1-34, 36, 38 and 39 is/are rejected.
- 7) ☒ Claim(s) 8, 16, 17, 21, 31 and 32 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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## **DETAILED ACTION**

### ***Specification***

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The applicant uses the term "comprises" in line 2 of the Abstract.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-32, 33-34 and 36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claim 1, the applicant claims "such that each of the at least one switch connection paths" (lines 12-13). It is not clear whether this is a reference to the "primary connections" (line 6) or the "secondary connection" (line 11).

With regard to claims 4 (line 3), 5 (lines 2 and 3) and claim 33 (line 6), the term "permanent" and the manner in which it describes a "connection" is not understood.

With regard to claim 14, the applicant claims "high capacity switch has two differing granularity levels" (lines 2-3). The applicant proceeds to claim, "one of the switching levels providing a finer granularity may be approximately equal to the granularity of a switching operation in a one of the switching levels providing a courser granularity of a switching operation" (lines 4-7). The applicant cannot claim that two claimed elements are both different and the same in a particular aspect.

With regard to claim 15, the applicant claims "three different granularity switching levels" (lines 2-3). The applicant proceeds to claim, "one of the secondary connection ... may be approximately equal to the granularity of a switching operation providing an intermediate granularity switching operation" (lines 3-7). The applicant cannot claim that two claimed elements are both different and the same in a particular aspect.

With regard to claim 20, the applicant claims the "coarsest granularity switching operation is transparent to the type of traffic" (lines 3-4). It is not clear whether "type of traffic" refers to coarser or finer communication or whether it is intended to refer to another distinction such as voice or data. Also, the meaning of the term "transparent" is unclear.

With regard to claim 36, the meaning of the term "hitless (line 2) is not clear, the applicant is requested to point to the area(s) of the specification that describe the meaning of this term.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-7, 9-15, 18-20, 22-30, 33-34, 38-39 rejected under 35 U.S.C. 103(a) as being unpatentable over Chopping (6,041,055) in view of Steely, Jr. et al (6,249,520).

With regard to claims 1, 38 and 39, Chopping discloses a telecommunications switch fabric with at least two switches of different granularities as illustrated by any of Figs 1-4. Specifically, Chopping discloses a VC12 2048kbit/s granularity switch connected to a 64kbit/s granularity switch (a plurality of differing granularity switches) (column 3, lines 23-26 and 37-47). Figure 1 illustrates two connections between the VC12 2048kbit/s granularity switch connected to a 64kbit/s granularity switch (at least two primary connections ... connecting one of the switching levels to another one of the switching levels).

Chopping does not disclose a secondary connection between switch nodes within the same switching level.

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Steely, Jr. et al discloses two implementations of a symmetric multi-processing systems as illustrated in Figs 7A and 7B. In the first implementation eight nodes are connected together via a hierarchical switch (column 13, lines 17-21) as illustrated by Fig 7A. In the second implementation two nodes are connected together without the use of a hierarchical switch (one secondary connection ... switch node within the same switching level) as illustrated in Fig 7B (column 14, lines 2-5).

A person of ordinary skill in the art would have been motivated to employ Steely, Jr. et al in Chopping to provide communication between two communication switches. At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine Chopping with Steely, Jr. et al (collectively Chopping-Steely) to obtain the invention as specified in claim 1.

With regard to claim 2, Chopping may communicate between the VC12 2048kbit/s granularity switch connected to a 64kbit/s granularity switch (a plurality of differing granularity switches) at the maximum allowable rate (Chopping column 3, lines 23-26 and 37-47).

With regard to claim 3, the switch disclosed by Steely is non-blocking as described by the reference title "High-Performance Non-Blocking Switch Multiple Channel Ordering Constraints".

With regard to claim 4 and 5, the connections between Steely Jr. et al discloses two nodes that are connected together without the use of a hierarchical

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switch (secondary connection) as illustrated in Fig 7B (column 14, lines 2-5).

Such connections may be permanent.

With regard to claim 6, Chopping discloses a VC12 2048kbit/s granularity switch (coarsest granularity switching) (column 3, lines 11-14 and 23-26).

With regard to claim 7, Steely, Jr. et al discloses eight nodes (plurality of switching nodes) are connected together via a hierarchical switch (column 13, lines 17-21) as illustrated by Fig 7A.

With regard to claim 9 and 14, Steely Jr. et al discloses that the switching nodes support 2.4Bbytes/s (substantially the same / approximately equal) (column 13, lines 25-28).

With regard to claim 10, Chopping discloses a VC12 2048kbit/s granularity switch connected to a 64kbit/s granularity switch (column 3, lines 23-26 and 37-47). Either switch may read on either the applicant's "first one" or "second one".

With regard to claims 11, 12, and 13, Chopping discloses two, three, and more than three granularity switching levels as illustrated in Fig 1, Fig 2, and Fig 4, respectively.

With regard to claim 14, the applicant claims "one of the switching levels providing a finer granularity may be approximately equal to the granularity of a switching operation in a one of the switching levels providing a courser granularity of a switching operation" (lines 4-7). The term "may" can be read as "may not". Chopping may communicate between the VC12 2048kbit/s granularity (coarser) switch connected to a 64kbit/s granularity switch (finer) at the maximum allowable rate (Chopping column 3, lines 23-26 and 37-47).

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With regard to claim 15, the applicant claims, "one of the secondary connection ... may be approximately equal to the granularity of a switching operation providing an intermediate granularity switching operation" (lines 3-7). The term "may" can be read as "may not". Chopping discloses three granularity switching levels as illustrated in Fig 2.

With regard to claim 18, Chopping discloses a VC12 2048kbit/s granularity switch connected to a 64kbit/s granularity switch (column 3, lines 23-26 and 37-47). There are two different switches that are connected (externally).

With regard to claim 19, the applicant claims "the coarsest granularity switching operation includes an optical switch" (lines 3-4). Use of optical switch as apposed to wired switches is an obvious change over the prior art.

With regard to claims 22-26, Chopping discloses a SDH (SDH/Sonet) crossconnect (column 3, lines 37-47).

With regard to claim 27 and 28, Chopping discloses examples of common granularities. SDH uses multiple columns (low/high/higher order) to carry virtual containers (virtual containers) (column 2, lines 61-64).

With regard to claim 29 and 30, it is inherent that a switch be placed in a communication network and or telecommunication network.

With regard to claim 33 and 34, Chopping discloses a telecommunications switch fabric with at least two switches of different granularities as illustrated by any of Figs 1-4. Specifically, Chopping discloses a VC12 2048kbit/s granularity switch (switch of granularity N) connected to a 64kbit/s granularity switch (switch of granularity M) (column 3, lines 23-26 and 37-47). Figure 1 illustrates two



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connections between the VC12 2048kbit/s granularity switch connected to a 64kbit/s granularity switch (connection path).

Chopping does not disclose a secondary connection between switch nodes within the same switching level, such as two fine grain switches (substantially equals).

Steely, Jr. et al discloses two implementations of a symmetric multi-processing system as illustrated in Figs 7A and 7B. In the first implementation eight nodes are connected together via a non-blocking hierarchical switch (column 13, lines 17-21) as illustrated by Fig 7A. In the second implementation two nodes are connected together without the use of a hierarchical switch (one secondary connection ... switch node within the same switching level) as illustrated in Fig 7B (column 14, lines 2-5).

A person of ordinary skill in the art would have been motivated to employ Steely, Jr. et al in Chopping to provide communication between two communication switches. At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine Chopping with Steely, Jr. et al (collectively Chopping-Steely) to obtain the invention as specified in claims 33 and 34.

### ***Allowable Subject Matter***

6. Claim 35 and 37 are allowed. Claims 8, 16, 17, 21, 31, and 32 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd

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paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew W Wahba whose telephone number is (571) 272-3081. The examiner can normally be reached on M-F 8:30-5:30.

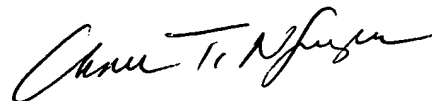
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Andrew Wahba



September 28, 2004



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